MYOFASCIAL TRIGGER POINTS CUPPING THERAPY

15

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BACKGROUND

Musculoskeletal tender points and their therapeutic values were first identified by Froriep in 1843, in the publication *Muskel Schweile*; trigger points (TrPs) were described as 'extremely tender, palpable hardenings in muscles that, when treated, afforded the patient much pain relief' (Simons et al, 1999). Between 1843 and 1997, numerous results and scientific papers were additionally published. The most notable and the one widely accepted as the most authoritative publication on trigger points is *Myofascial Pain and Dysfunction: The Trigger Point Manual* by Simons and colleagues, who describe the myofascial trigger point as 'a hyper-irritable spot in skeletal muscle that is associated with a hypersensitive palpable nodule in a taut band. The spot is painful on compression and can give rise to characteristic referred pain, referred tenderness, motor dysfunction, and autonomic phenomena. Types of myofascial trigger points include: active, associated, attachment, central, key, latent, primary, and satellite' (Simons et al, 1999).

From the traditional Chinese medicine perspective, trigger points are similar to *ashi* points (also known as *pressure points*) as described in TCM pathology. These are sensitive spots that cause pain when pressed upon. However, a subtle difference remains – that when pressure is applied on trigger points *the sensation generated is often radiated or is referred to a predictable course*. These referred sensations can include pain, numbness, a tingling sensation, muscle stiffness and muscle weakness. Trigger points represent stagnation of Blood or Qi at a deeper musculoskeletal level. These points are usually located in the centre of a muscular structure (Baldry, 2005). Apart from being 'sensitive' when gently stroked or pressed, trigger points can also be felt as a tight band or a 'lump', not under the superficial layers of the skin, but in the deeper layers within the muscular structure and sometimes close to the bone.

What Causes Trigger Points?

Generally speaking, any action or movement that puts extra load on the musculoskeletal system can be the culprit. Persistent wrong posture while sitting or walking, carrying or lifting heavy loads, accidents, strains, falls, overwork, overuse of a particular muscle group and a stressful lifestyle can all contribute to trigger point formation.

Treatment Methods

According to Simons et al (1999) any physical intervention will influence a trigger point release (deactivation). Methods discussed in *The Trigger Point Manual* include acupuncture, spray and stretch, injecting trigger points with local anaesthetic such as procaine (the most-used method), trigger point pressure release, deep stroking (and other) massage, application of heat, posture correction, exercise, transcutaneous electrical nerve stimulation (TENS) and therapeutic ultrasound techniques – all described in detail.

THE PRACTICAL APPLICATION OF CUPPING THERAPY ON MYOFASCIAL TRIGGER POINTS

During the cupping application a strong, *negative pressure* is created over the trigger point. This in turn will result in the stimulation of the stagnant Blood or Qi into movement towards the direction of the cup. The negative pressure will also force oxygen-rich blood to flow into the trigger point, releasing the muscular knot/lump. Sometimes trigger points are difficult to obliterate completely, especially when dealing with long-established trigger points. These may require more frequent cupping application, which can be as often as three times per week.

Because trigger points are located at the deeper layers of the muscle tissues, a Strong cupping method is often required to be effectual. As recommended earlier in this book, the treatment should begin by administering a Medium cupping method, at least for the first two visits, and subsequently gradually increasing the strength of the cupping to a Strong cupping method. Typically a single cup is applied to the trigger point, with several additional cups to the borders of the muscular structure or the path of pain. Not all trigger points are suitable for cupping therapy, owing to their anatomical location. In these cases other methods of trigger point release should be employed.

One of the most suitable and effective types of apparatus for conducting trigger point cupping is the pistol-handle cupping set. As well as giving the practitioner total control over the strength of the suction, the small cups in the set also make it an ideal tool when treating points on the neck and face.

How to Locate an Active Trigger Point

Here is how Simons et al (1999) describe active and the latent trigger points:

- **Active myofascial trigger point**: A myofascial trigger point that causes a clinical pain complaint. It is always tender, prevents full lengthening of the muscle, weakens the muscle, refers a patient-recognized pain on direct compression, mediates a local twitch response of muscle fibres when adequately stimulated and, when compressed within the patient's pain tolerance, produces referred motor phenomena and often autonomic phenomena, generally in its pain reference zone, and causes tenderness in the pain reference zone.
- **Latent myofascial trigger point:** A myofascial trigger point that is clinically quiescent (dormant) with respect to spontaneous pain; it is painful only when palpated. A latent trigger point may have all the other clinical characteristics of an active trigger point and always has a taut band that increases muscle tension and restricts range of motion.

Both types of trigger point share similar physical characteristics: well-defined, tense, palpable myofascial tightness, with a distinct painful nodule when pressed. An experienced tactile therapy practitioner has no difficulty in identifying these tight nodules: as well as feeling taut or tense, the patient will always respond and react (sometimes with an extreme wrench) to the stimulation of trigger points.

CUPPING APPLICATION ON MYOFASCIAL TRIGGER POINTS

To be absolutely certain that the correct trigger points are selected, Simons et al (1999) insist that four conditions must be met: 'the detection of spot tenderness, palpation of a taut band, the presence of referred pain, and reproduction of the subject's symptomatic pain'. In the following section on treatment protocol (see Figs 15.1–15.31), I have indicated the trigger points' cupping locations (○) as the 'most likely' locations, because these myofascial trigger points are not predetermined fixed points, but rather ones that can be discovered by the practitioner only after carefully palpating the myofascial structure. To demonstrate the pain pattern of trigger points, the main pain reference zone of the trigger points is indicated in these figures in dark grey and the overflow zone in lighter grey.

Head, Neck and Shoulder Pain

Masseter Muscle (Fig. 15-1)

SYMPTOMS. Restricted jaw opening, and pain during biting and chewing; masseter muscle TrPs may also refer pain toward the eyebrow, in front of the face and under the eyes, the ear and the upper or lower molar teeth (Simons et al, 1999).

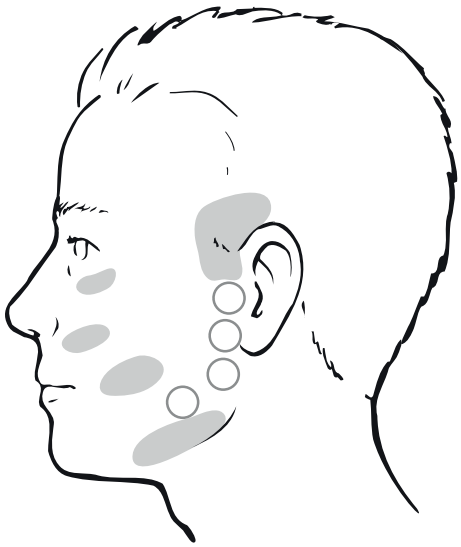

FIGURE 15-1 Masseter muscle trigger points.

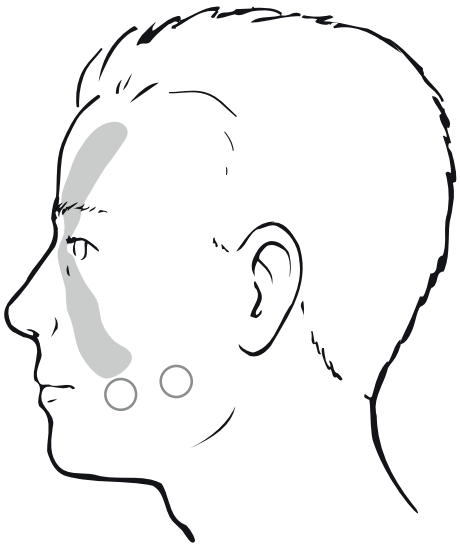

FIGURE 15-2 Cutaneous facial muscle trigger points, left zygomatic major muscle.

Cutaneous Facial Muscle: Zygomatic Major Muscle (Fig.15-2)

SYMPTOMS. Zygomatic major muscle TrPs refer pain to the front of the face over the bridge of the nose and reaching to the middle of the forehead (Simons et al, 1999).

Semispinalis Capitis (Fig. 15-3)

SYMPTOMS. Semispinalis capitis TrPs refer pain to the back of the skull and reaching to the temple and forehead (Simons et al, 1999).

Splenius Capitis and Splenius Cervicis Muscles (Fig. 15-4)

SYMPTOMS. Splenius capitis TrPs refer pain to the vertex of the head. The upper splenius cervicis muscle TrPs refer pain to the occiput – 'ache inside the skull'. The lower splenius cervicis muscle TrPs refer pain down to the shoulder girdle and to the angle of the neck (Simons et al, 1999).

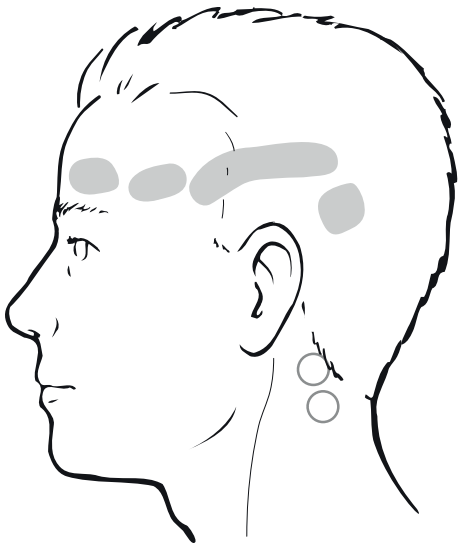

FIGURE 15-3 Semispinalis capitis trigger points.

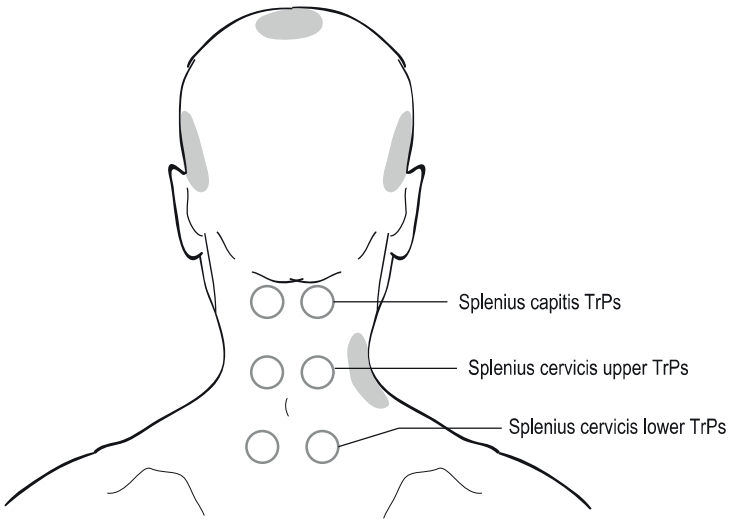

FIGURE 15-4 Splenius capitis trigger points, splenius cervicis upper trigger points and splenius cervicis lower trigger points.

Trapezius Muscle (Fig. 15-5)

SYMPTOMS. The trapezius muscle consists of three sections: the upper, the middle and the lower. The TrPs in the upper trapezius muscle refer pain towards the neck, behind the ear and to the temple. The TrPs in the middle trapezius muscle refer pain towards the vertebrae and to the interscapular region. The TrPs in the lower trapezius muscle refer pain in the upper part of the trapezius muscle towards the posterior neck and the mastoid area (Simons et al, 1999).

Levator Scapulae Muscle (Fig. 15-6)

SYMPTOMS. Limited neck rotation and 'stiff neck' syndrome (Simons et al, 1999).

Supraspinatus Muscle (Fig. 15-7)

SYMPTOMS. Supraspinatus muscle TrPs refer deep pain in the shoulder region, often extending down to the arm and forearm, concentrating over the lateral epicondyle of the elbow (Simons et al, 1999).

Infraspinatus Muscle (Fig. 15-8)

SYMPTOMS. Infraspinatus muscle TrPs refer pain to the front of the shoulder, radiating down the anterolateral aspect of the arm (Simons et al, 1999).

Teres Minor Muscle (Fig. 15-9)

SYMPTOMS. Teres minor muscle TrPs refer deep and sharp pain below the subacromial bursa, imitating bursitis (Simons et al, 1999).

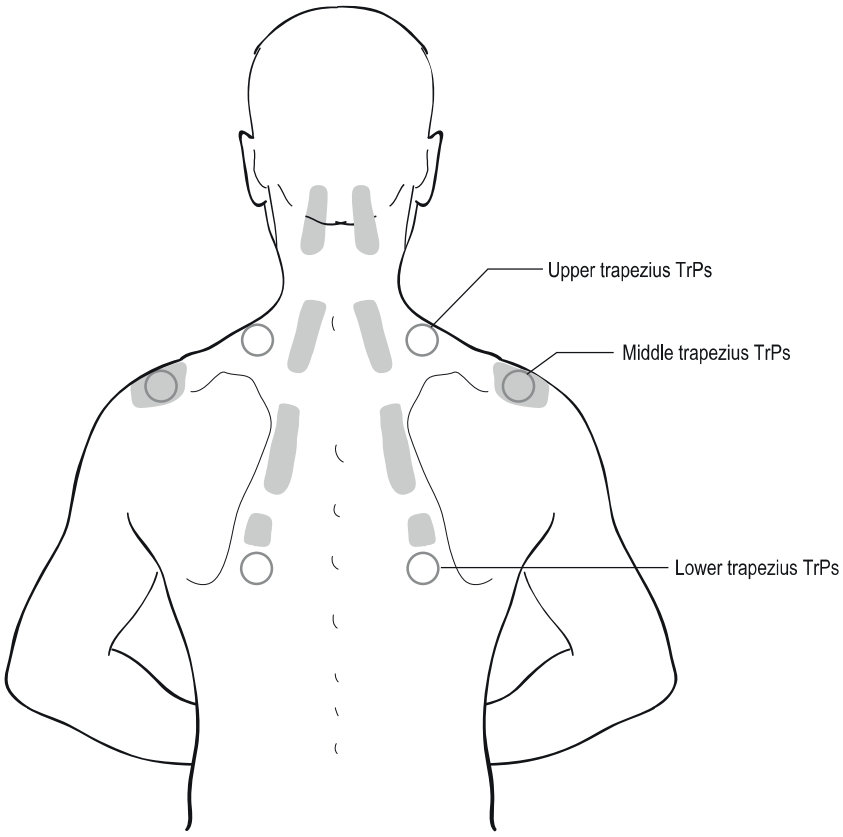

FIGURE 15-5 Trapezius muscle trigger points (upper trapezius muscle, middle trapezius muscle and lower trapezius muscle).

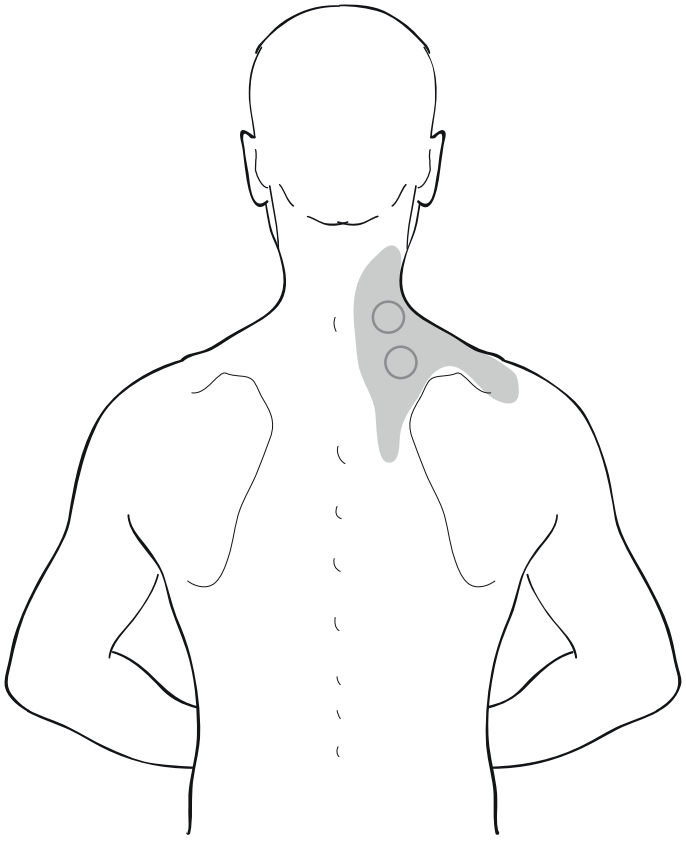

FIGURE 15-6 Levator scapulae muscle trigger points.

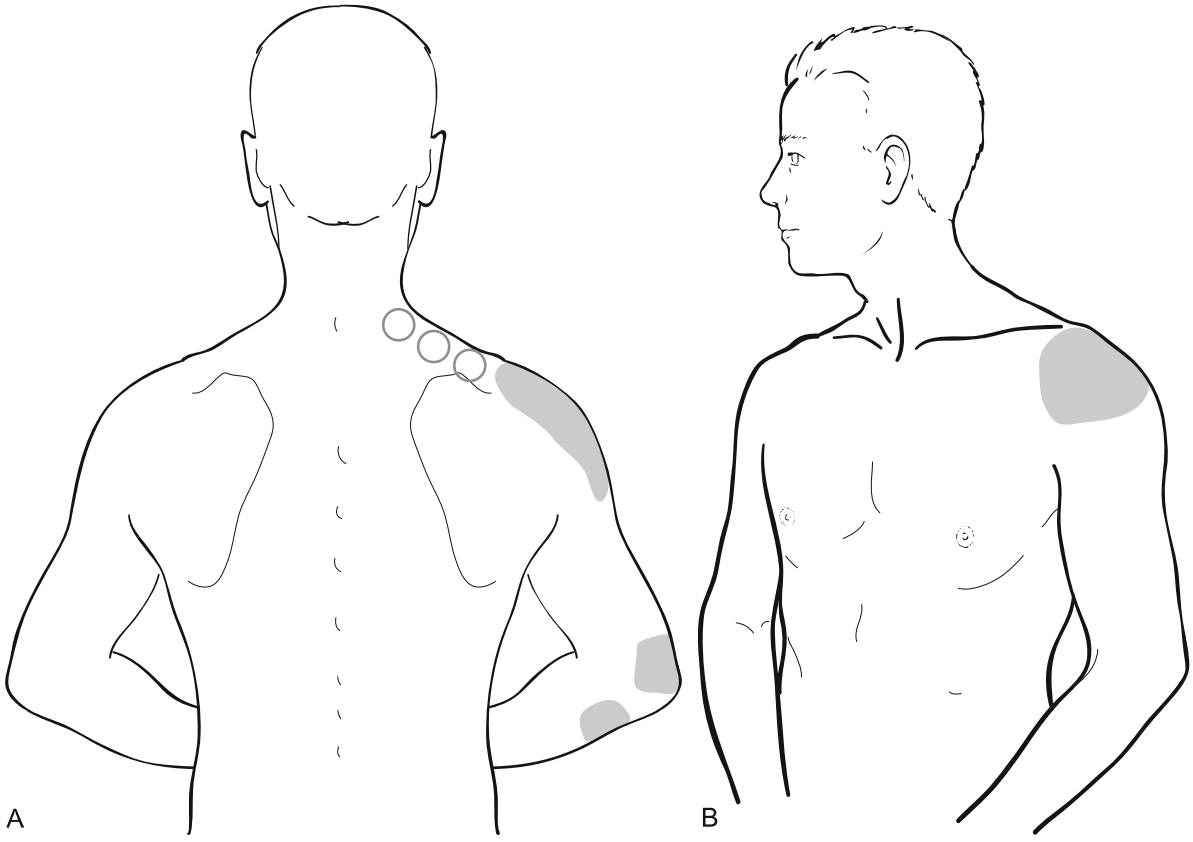

FIGURE 15-7 (A) Supraspinatus muscle trigger points (B) Supraspinatus muscle trigger points.

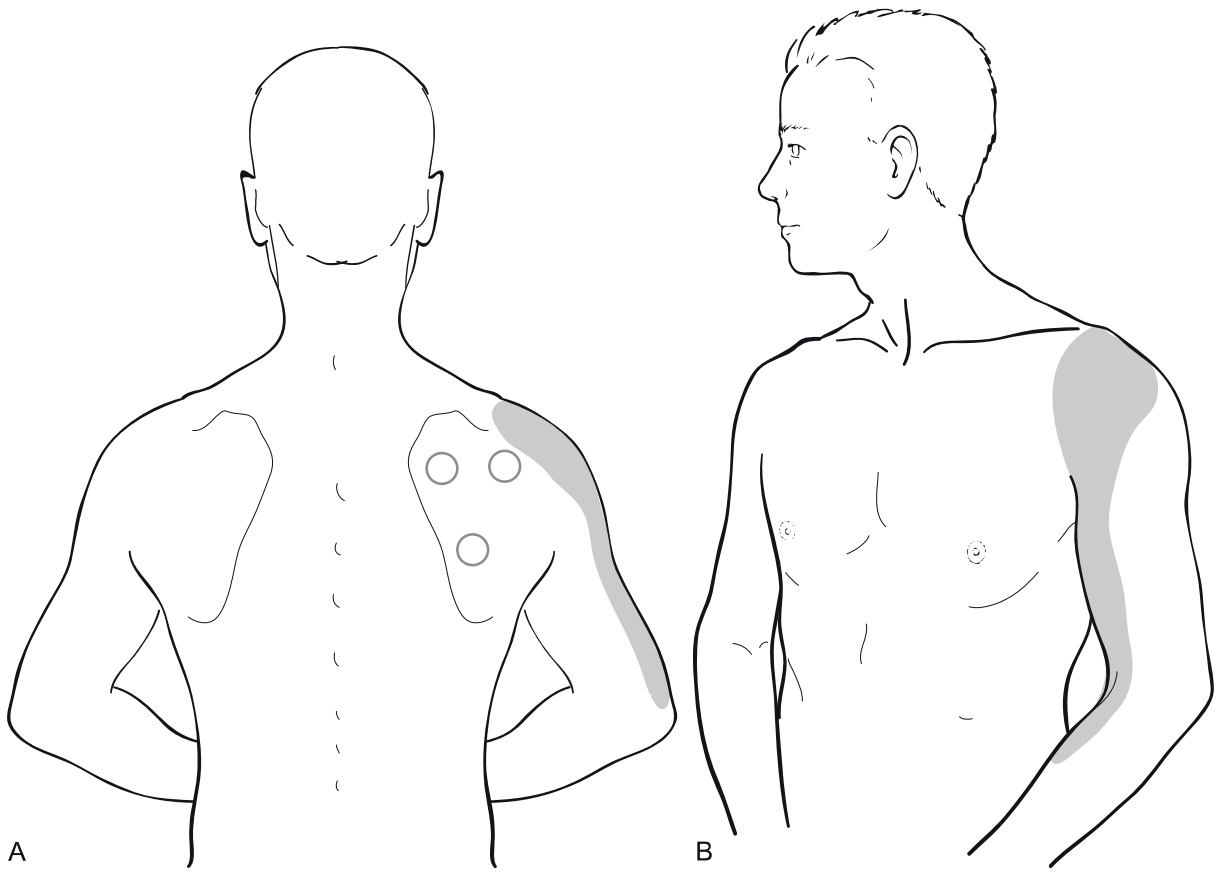

FIGURE 15-8 (A, B) Infraspinatus muscle trigger points.

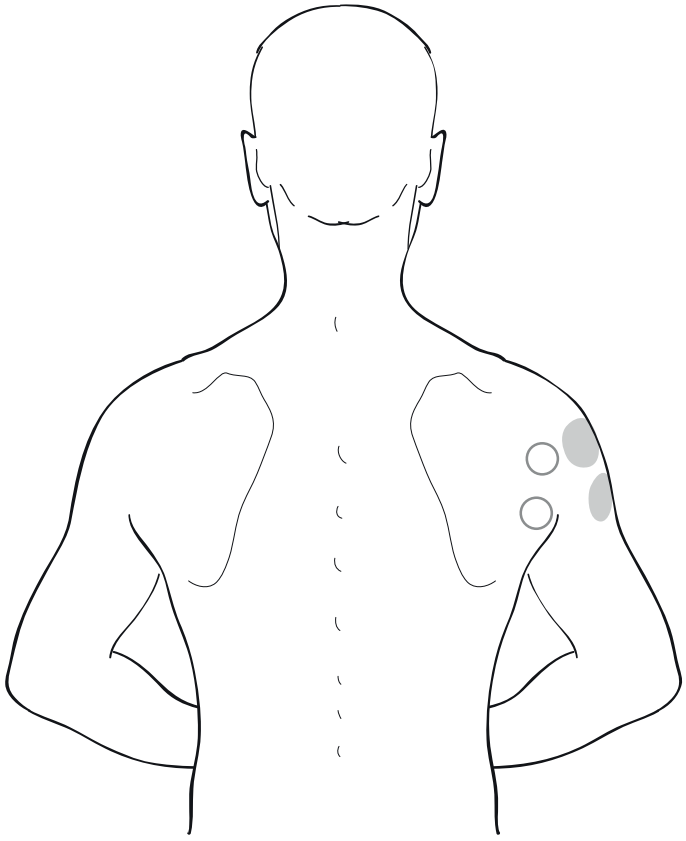

FIGURE 15-9 Teres minor muscle trigger points.

Latissimus Dorsi Muscle (Fig. 15-10)

SYMPTOMS. Latissimus dorsi muscle TrPs refer pain to the lower scapula and to the mid-thoracic region of the back (Simons et al, 1999).

Rhomboid Major and Minor Muscles (Fig. 15-11)

SYMPTOMS. Rhomboid major and minor muscles TrPs refer pain along the medial vertebral border of the scapula (Simons et al, 1999).

Deltoid Muscle (Fig. 15-12)

SYMPTOMS. Deltoid muscle Local TrPs refer pain to the anterior, middle or posterior part of the muscle (Simons et al, 1999).

Coracobrachialis Muscle (Fig. 15-13)

SYMPTOMS. Coracobrachialis muscle TrPs refer pain over the anterior aspect of the proximal humerus; pain also extends to the back of the arm and to the back of the hand (Simons et al, 1999).

Biceps Brachii Muscle (Fig. 15-14)

SYMPTOMS. Biceps brachii muscle TrPs mainly refer pain upwards over the muscle to the front of the shoulder, which may also cause restriction in arm motion (Simons et al, 1999).

Triceps Brachii Muscle (Fig. 15-15)

SYMPTOMS. Triceps brachii muscle TrPs refer pain mostly up and down the posterior aspect of the arm and to the lateral epicondyle. Pain may also radiate towards the upper part of the suprascapular region (Simons et al, 1999).

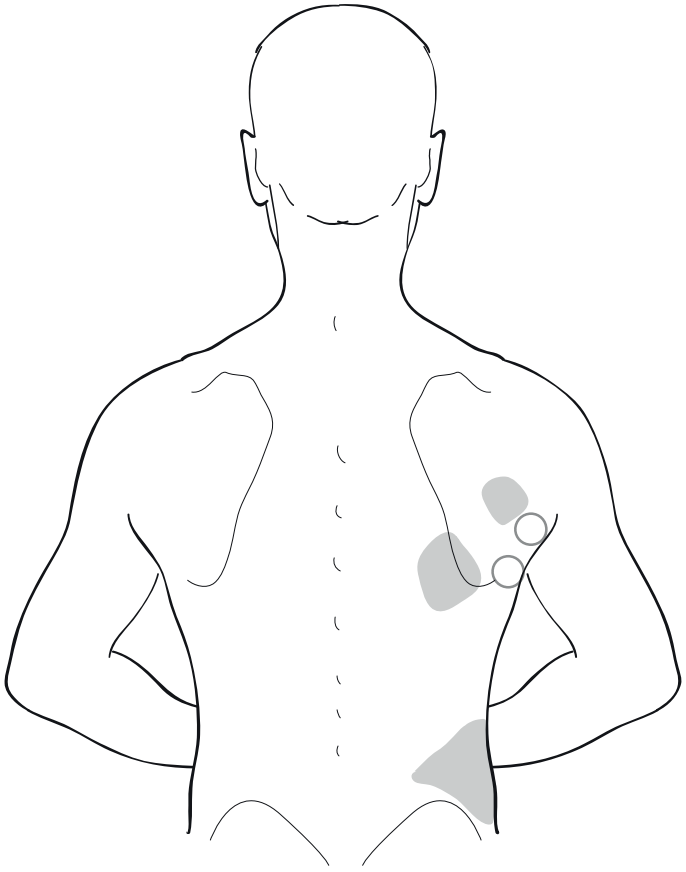

FIGURE 15-10 Latissimus dorsi muscle trigger points.

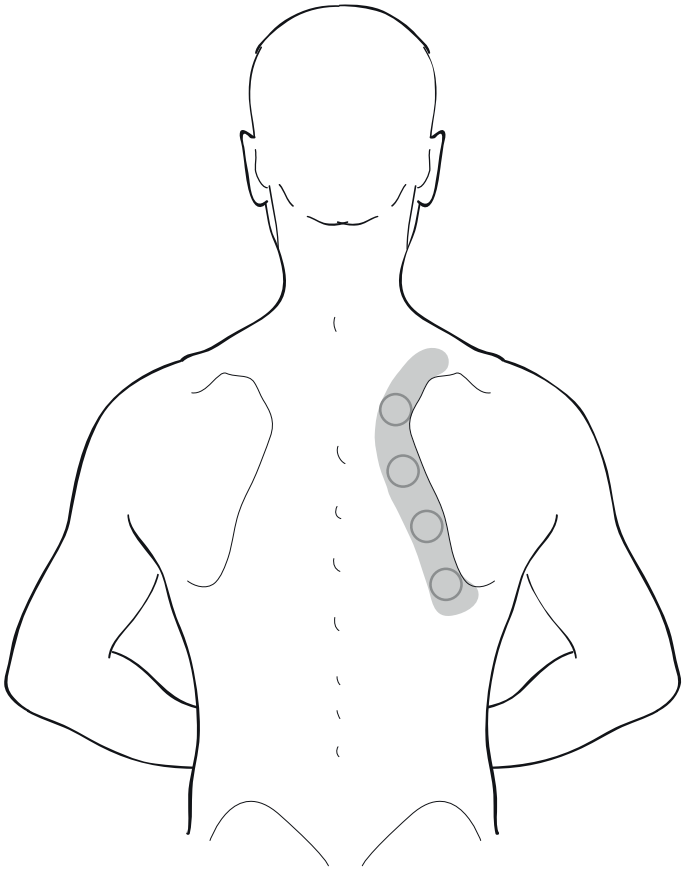

FIGURE 15-11 Rhomboid major and minor muscle trigger points.

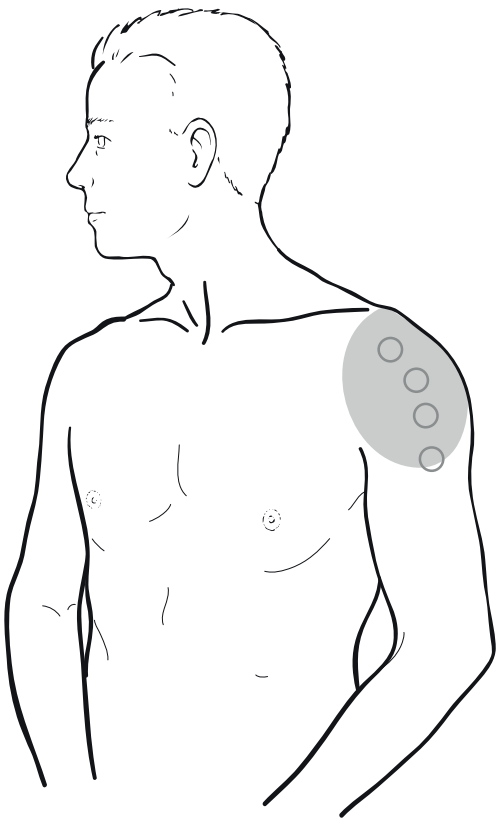

FIGURE 15-12 Deltoid muscle trigger points.

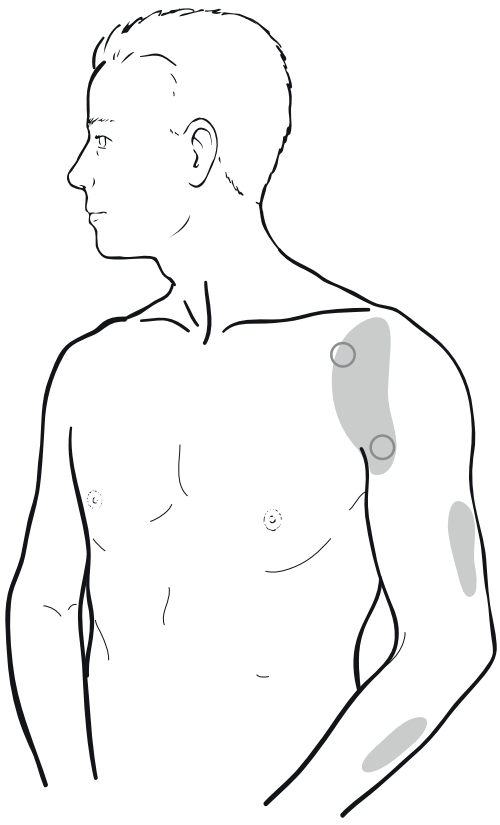

FIGURE 15-13 Coracobrachialis muscle trigger points.

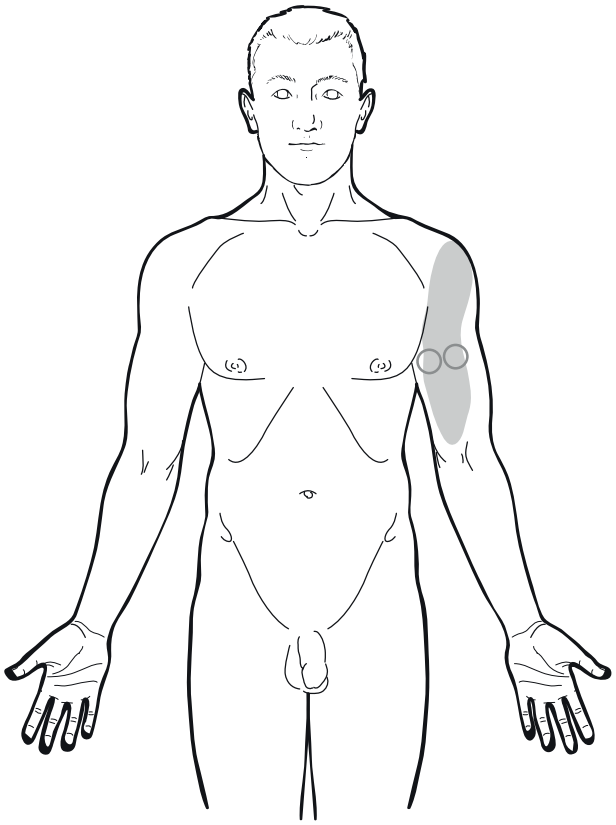

FIGURE 15-14 Biceps brachii muscle trigger points.

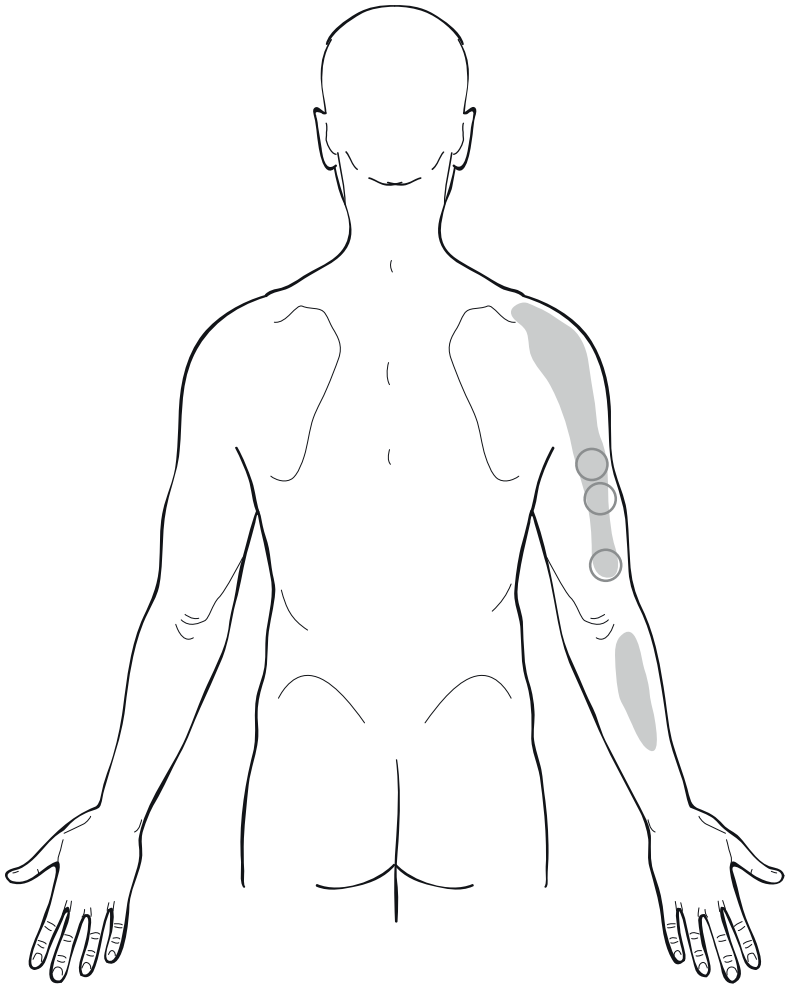

FIGURE 15-15 Triceps brachii muscle trigger points.

Forearm and Hand Pain (Extensors and Flexors)

Extensor Carpi Ulnaris, Extensor Carpi Radialis Brevis and Extensor Carpi Radialis Longus Muscles (Fig. 15-16)

SYMPTOMS. Pain originating from TrPs in the extensors carpi radialis longus and brevis appears over the lateral epicondyle, over the back aspect of the forearm, and reaches the back of the hand. The extensor carpi ulnaris TrPs radiate pain to the back of the ulnar side of the wrist (Simons et al, 1999).

Palmaris Longus Muscle (Fig. 15-17)

SYMPTOMS. The palmaris longus muscle TrP refers needle-like, prickling pain in the palm (Simons et al, 1999).

Flexor Carpi Radialis and Flexor Carpi Ulnaris Muscles (Fig. 15-18)

SYMPTOMS. The flexor carpi radialis muscle TrP refers pain towards the centre of the wrist and into the palm. The flexor carpi ulnaris muscle TrP refers pain to the ulnar side of the wrist and into the palm (Simons et al, 1999).

Adductor Pollicis Muscle (Fig. 15-19)

SYMPTOMS. The adductor pollicis muscle TrP refers aching pain along the outside of the thumb and hand at the base of the thumb distal to the wrist crease (Simons et al, 1999).

Upper Chest Pain

Pectoralis Major Muscle (Fig. 15-20)

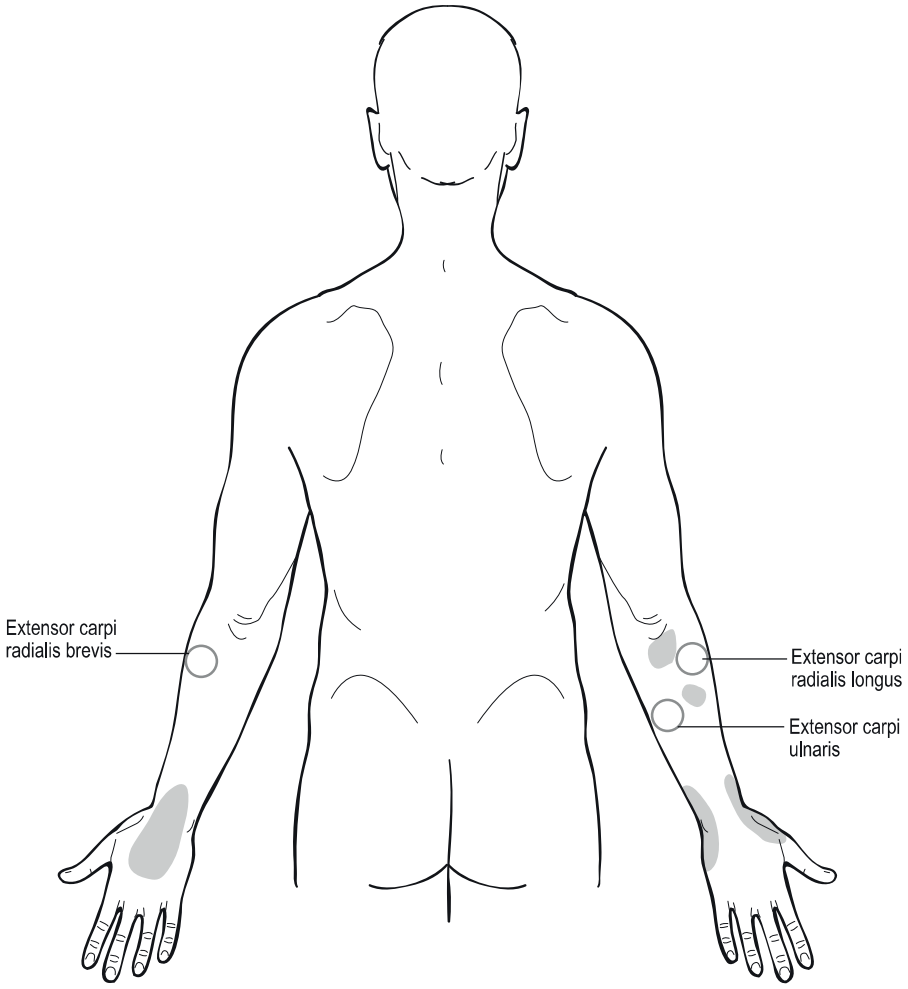

FIGURE 15-16 Hand extensor muscle trigger points (extensor carpi radialis longus, extensor carpi ulnaris and extensor carpi radialis brevis).

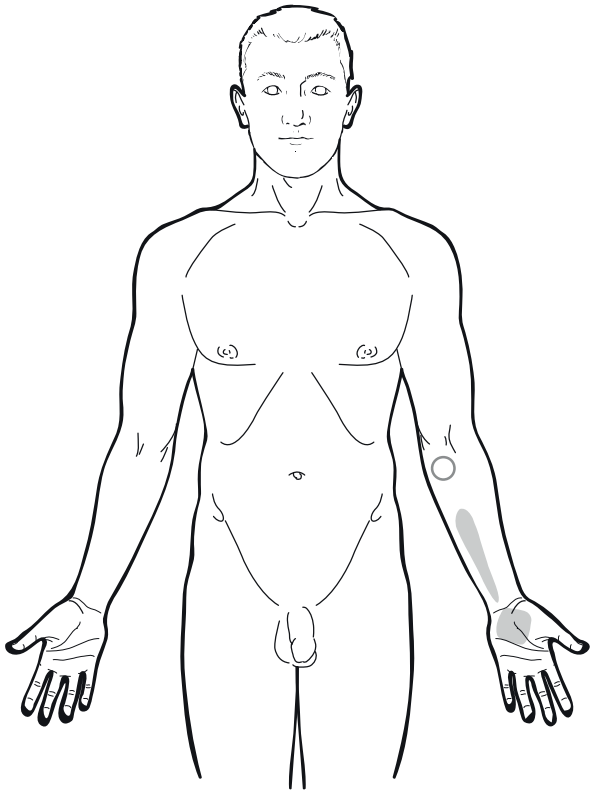

FIGURE 15-17 Palmaris longus muscle trigger point.

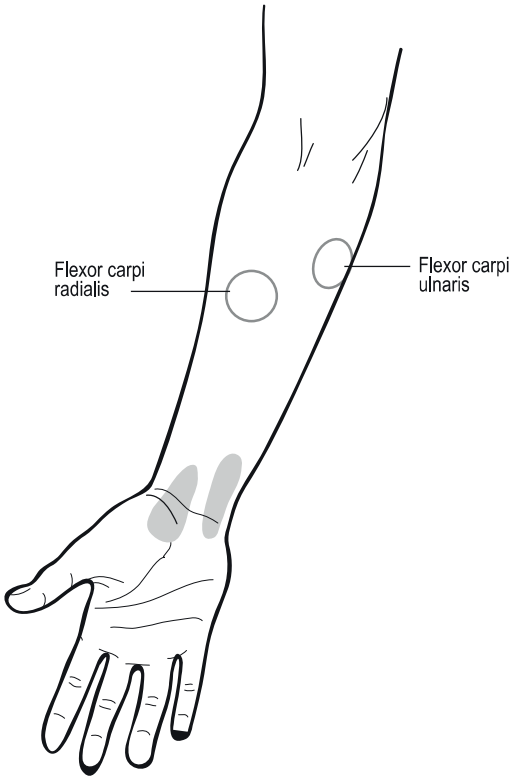

FIGURE 15-18 Hand flexor muscle trigger points (flexor carpi radialis and flexor carpi ulnaris).

FIGURE 15-19 Adductor pollicis muscle trigger point.

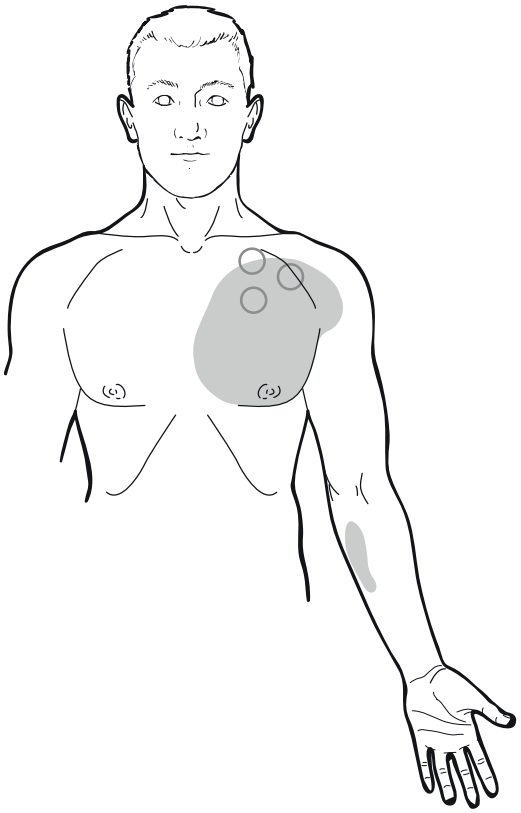

FIGURE 15-20 Pectoralis major muscle trigger points.

SYMPTOMS. Pectoralis major muscle TrPs refer pain into the breast as well as to the chest region, which imitates the pain of cardiac deficiency in persons with no previous history of cardiac disease (Simons et al, 1999). Pain may also extend towards the ulnar aspect of the arm. It is also common to have several TrPs on this muscle.

Lower Back, Lumbar and Buttock Pain

Serratus Posterior Inferior Muscle (Fig. 15-21)

SYMPTOMS. Serratus posterior inferior muscle pain is at a local point close to the TrP. The pain usually radiates over and around the serratus posterior inferior muscle (Simons et al, 1999).

Iliocostalis Lumborum Muscle (Fig. 15-22)

SYMPTOMS. The iliocostalis lumborum muscle TrP refers pain to the mid-buttock (Simons et al, 1999).

Longissimus Thoracis Muscle (Fig. 15-23)

SYMPTOMS. The longissimus thoracis muscle TrP refers pain to the sacroiliac region and the buttock (Simons et al, 1999).

Quadratus Lumborum Muscle (Fig. 15-24)

SYMPTOMS. Quadratus lumborum muscle TrPs refer pain down to the outer side of the iliac crest and over the greater trochanter, and sometimes into the groin (Baldry, 2005).

Lower Leg Pain

Piriformis Muscle (Fig. 15-25)

SYMPTOMS. The piriformis muscle TrP refers pain in the buttock to the hip, extending down the back of the leg in parallel with the sciatic nerve (Baldry, 2005).

Vastus Lateralis Muscle (Fig. 15-26)

SYMPTOMS. The vastus lateralis muscle TrP refers pain up the side of the thigh; pain may also extend into the greater trochanter (Baldry, 2005).

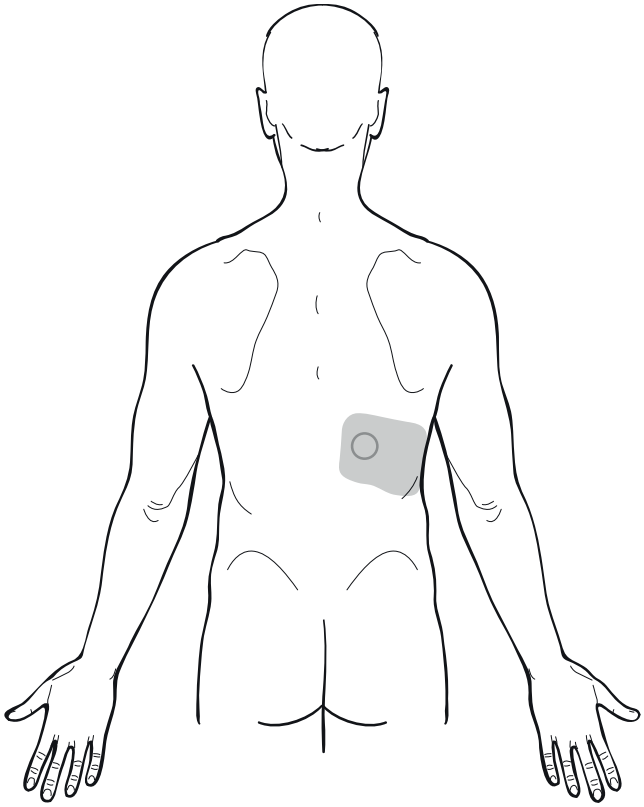

FIGURE 15-21 Serratus posterior inferior muscle trigger point.

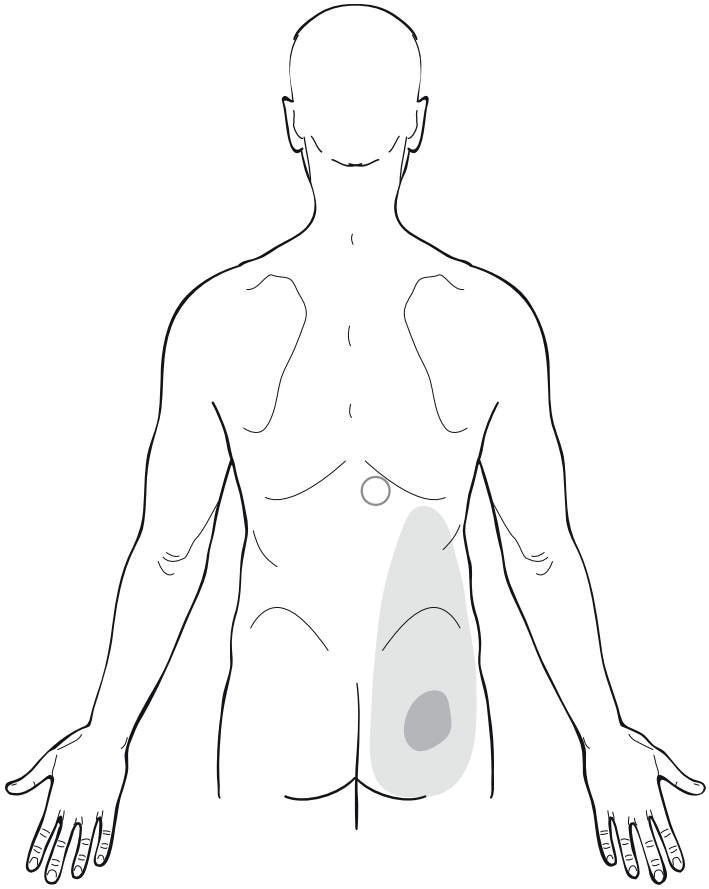

FIGURE 15-22 Iliocostalis lumborum muscle trigger point.

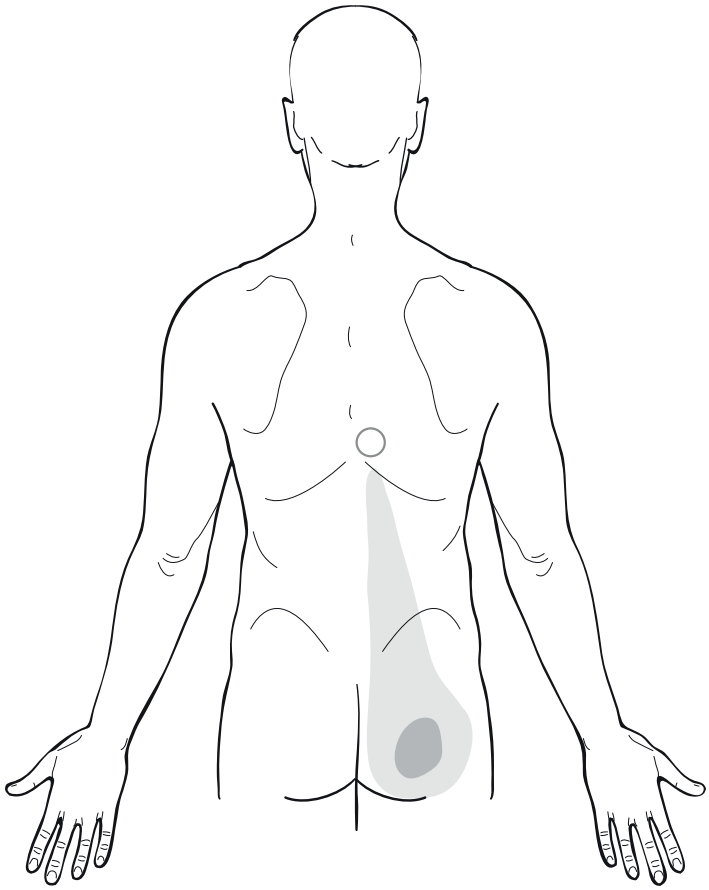

FIGURE 15-23 Longissimus thoracis muscle trigger point.

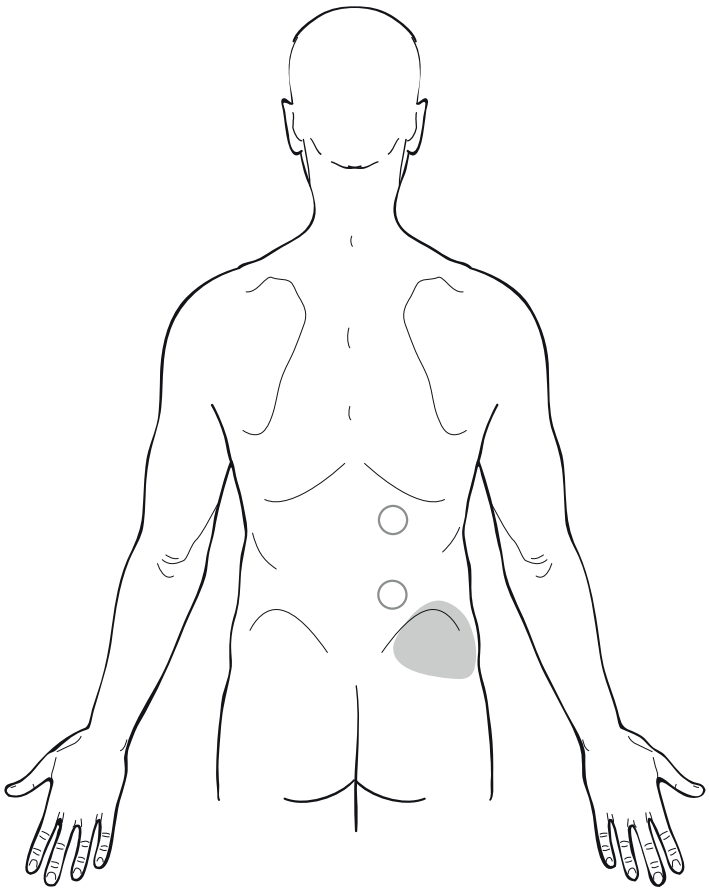

FIGURE 15-24 Quadratus lumborum muscle trigger points.

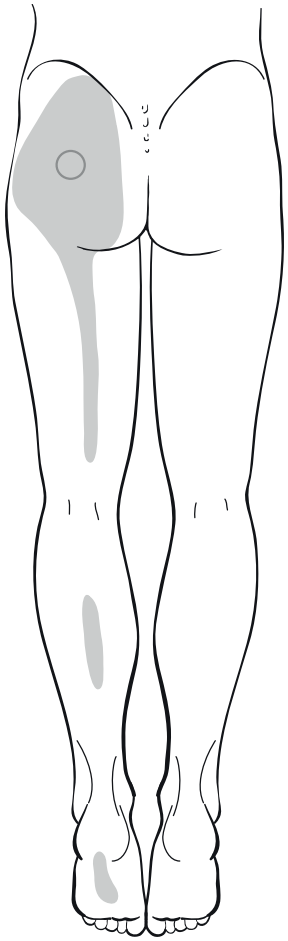

FIGURE 15-25 Piriformis muscle trigger point.

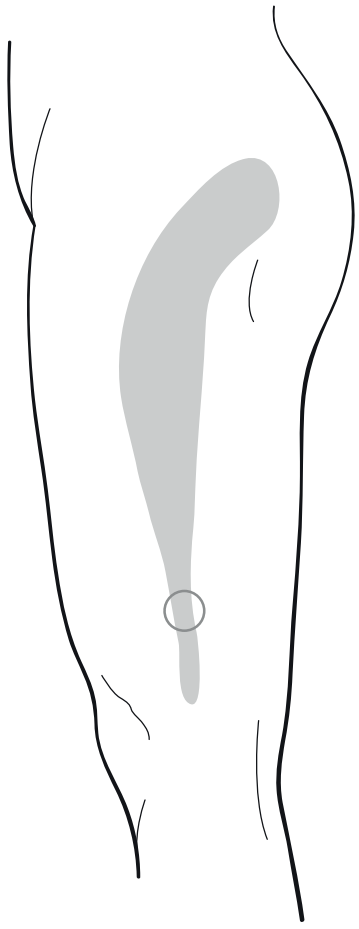

FIGURE 15-26 Vastus lateralis muscle trigger point.

Vastus Medialis Muscle (Fig. 15-27)

SYMPTOMS. The vastus medialis muscle TrP refers pain to the inner side of the knee (Baldry, 2005).

Tibialis Anterior Muscle (Fig. 15-28)

SYMPTOMS. The tibialis anterior muscle TrP refers pain down the front of the tibia, the inner side of the ankle and the foot (Baldry, 2005).

Gastrocnemius Muscle (Fig. 15-29)

SYMPTOMS. The gastrocnemius muscle TrP refers pain down the calf; pain may sometimes extend to the sole of the foot (Baldry, 2005).

Soleus Muscle (Fig. 15-30)

SYMPTOMS. The soleus muscle TrP refers pain along the Achilles tendon; pain may also extend to the heel (Baldry, 2005).

Peroneal Longus and Brevis Muscles (Fig. 15-31)

SYMPTOMS. TrPs on the peroneal longus and brevis muscles refer pain to the outer side of the leg and foot, concentrating on the outer side of the ankle (Baldry, 2005).

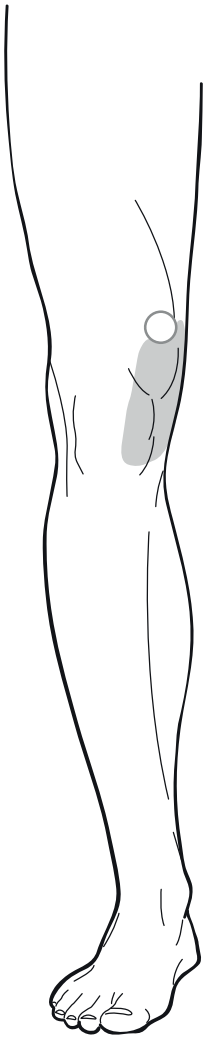

FIGURE 15-27 Vastus medialis muscle trigger point.

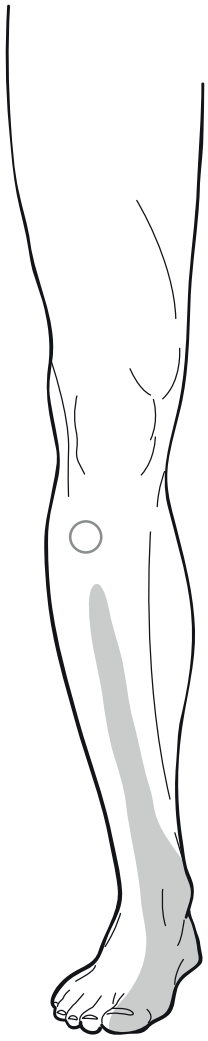

FIGURE 15-28 Tibialis anterior muscle trigger point.

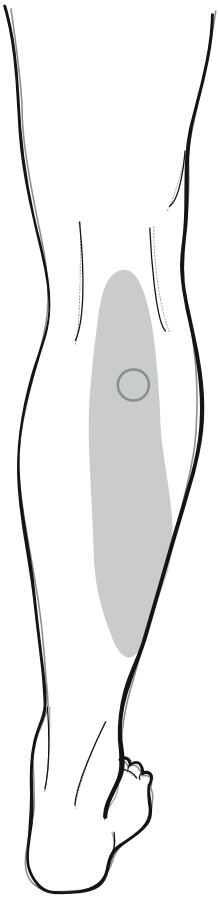

FIGURE 15-29 Gastrocnemius muscle trigger point.

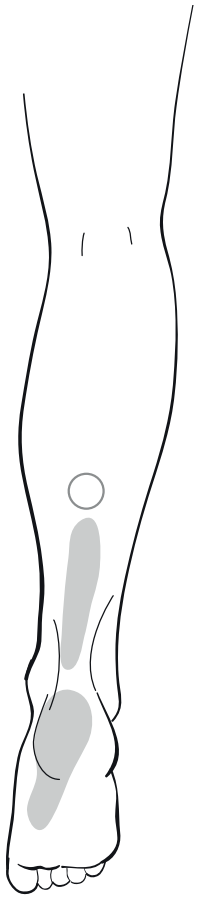

FIGURE 15-30 Soleus muscle trigger point.

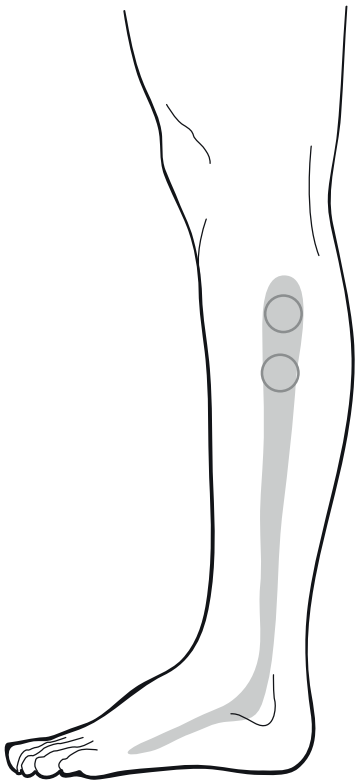

FIGURE 15-31 Peroneal longus and brevis muscle trigger points.

Abdominal Muscles

I have deliberately omitted abdominal muscle trigger points cupping therapy, as it is difficult to differentiate pain associated with internal organs such as the Heart, Liver, Kidney, and digestive, urinary or gynaecological origin complaints. Furthermore, abdominal trigger points can cause both internal and external abdominal pain, and misdiagnosis is common (Davis, 2004).

REFERENCES

Baldry, P., 2005. Acupuncture, Trigger Points and Musculoskeletal Pain, third ed Churchill Livingstone, Edinburgh, pp. 302–344.
Davis, C., 2004. The Trigger Point Therapy Workbook. New Harbinger Publications, Oakland, Canada, pp. 146–148.
Simons, D., Travell, J., Simons, L., 1999. Myofascial Pain and Dysfunction: The Trigger Point Manual, second ed. Williams & Wilkins, Philadelphia, pp. 14–913.